



MEMC TO-01-2450 (3009)  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Falster et al

Serial No. 10/615,127

Filed July 24, 2003

Confirmation No. 8157

For     PROCESS FOR PREPARING A STABILIZED IDEAL OXYGEN PRECIPITATING  
          SILICON WAFER

October 17, 2003

COMMISSIONER FOR PATENTS  
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In accordance with 37 C.F.R. 1.97 and 1.98 and MPEP 609, and in compliance with the duty of disclosure set forth in 37 C.F.R. 1.56, applicants submit copies of the references listed \* on the attached PTO/SB/08A for consideration by the Patent and Trademark Office in the above-entitled application and to be made of record therein.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steve Ritchey".

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Sheet

1

of

4

Attorney Docket No. MEMC TP-01-2450 (3009)

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Group Art Unit	
Examiner Name	

<b>U.S. PATENT DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code <sup>2</sup> (if known)		
	1	4,314,595		Yamamoto et al	02/09/1982
	2	4,376,657		Nagasawa et al	03/15/1983
	3	4,437,922		Bischoff et al	03/20/1984
	4	4,851,358		Huber	07/25/1989
	5	4,868,133		Huber	09/19/1989
	6	5,327,007		Imura et al	07/05/1994
	7	5,401,669		Falster et al	03/28/1995
	8	5,403,406		Falster et al	04/04/1995
	9	5,445,975		Gardner et al	08/29/1995
	10	5,502,010		Nadahara et al	03/26/1996
	11	5,502,331		Inoue et al	03/26/1996
	12	5,534,294		Kubota et al	07/09/1996
	13	5,561,316		Fellner	10/01/1996
	14	5,593,494		Falster	01/14/1997
	15	5,611,855		Wijaranakula	03/18/1997
	16	5,674,756		Satoh et al	10/07/1997

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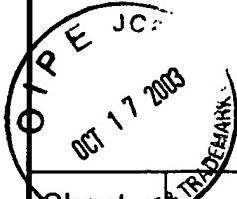
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Sheet 1 of 4

2 of 4

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	17	5,738,942		Kubota et al	04/14/1998
	18	5,788,763		Hayashi et al	08/04/1998
	19	5,885,905		Nadahara et al	03/23/1999
	20	5,939,770		Kageyama	08/17/1999
	21	5,944,889		Park et al	08/31/1999
	22	6,191,010	B1	Falster	02/20/2001
	23	6,204,152	B1	Falster et al	03/20/2001
	24	6,306,733	B1	Falster et al	10/23/2001

**FOREIGN PATENT DOCUMENTS**

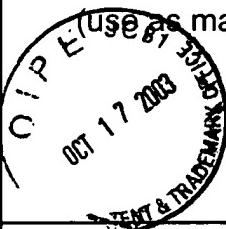
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T <sup>6</sup>
		Office	Number <sup>4</sup>	Kind Code <sup>2</sup> (if known)			
	25	DE	43 23 964	A1	Nadahara et al	01/20/1994	
	26	EP	0 503 816	A1	Fusegawa et al	09/16/1992	
	27	EP	0 536 958	A1	Otakawa et al	04/14/1993	
	28	EP	0 954 018	A1	Sadamitsu et al	11/03/1999	
	29	EP	0 964 435	A1	Takeno et al	12/15/1999	
	30	JP	5155700		Atsushi et al	06/22/1993	A
	31	JP	7201874		Hirochika	08/04/1995	A

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Sheet 3 of 4 Attorney Docket No. MEMC TP-01-2450 (3009)

	32	JP	7321120		Shiro et al	12/08/1995	A
	33	JP	7335657		Masahiko	12/12/1995	A
	34	JP	8045944		Takashi et al	02/16/1996	A
	35	JP	8045945		Yuhki et al	02/16/1996	A
	36	JP	9199416		Hidekazu et al	07/31/1997	A
	37	JP	11067781		Nobuyuki et al	03/09/1999	A
	38	JP	11150199		Maki	06/02/1999	A
	39	WO	98/38675		Falster et al	09/03/1998	
	40	WO	98/45507		Falster et al	10/15/1998	

**OTHER ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	41	FALSTER, R., et al, The Engineering of Silicon Wafer Material Properties Through Vacancy Concentration Profile Control and the Achievement of Ideal Oxygen Precipitation Behavior, Mat. Res. Soc. Symp. Proc., vol. 510, 1998, p. 27-35	
	42	HARA, A., et al, Enhancement of Oxygen Precipitation in Quenched Czochralski Silicon Crystals, Journal of Applied Phys., Vol. 66, 1989, p. 3958-3960	
	43	HAWKINS, G.A., et al, Effect of Rapid Thermal Processing on Oxygen Precipitation in Silicon, Mat. REs. Soc. Symp. Proc., Vol. 104, 1988, p. 197-200	
	44	HAWKINS, G.A., et al, The Effect of Rapid Thermal Annealing on the Precipitation of Oxygen in Silicon, J. Appl. Phys., Vol. 65, No. 9, 1989, p. 3644-3654	

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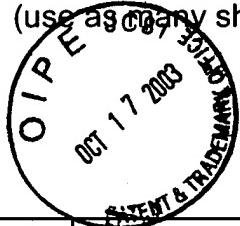
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Sheet 4 of 4 Attorney Docket No. MEMC TP-01-2450 (3009)

	45	JACOB, M., et al, Influence of TRP on Vacancy Concentrations, Mat. REs. Soc. Symp. Proc., Vol. 490, 1998, p. 129-134	
	46	NADAHARA, S., et al, Hydrogen Annealed Silicon Wafer, Solid State Phenomena, Vols. 57-58, 1997, p. 19-26	
	47	PAGANI, M., et al, Spatial Variations in Oxygen Precipitation in Silicon After High Temperature Rapid Thermal Annealing, Appl. Phys. Lett., Vol. 70, No. 12, 1997, p. 1572-1574	
	48	SHIMIZU, H., et al, Effects of Surface Defects (COPs) On Isolation Leakage and Gate Oxide Integrity in MOS Large-Scale-Integrated-Circuit Devices and Cost Effective p- <i>l</i> pEpitaxial Wafers, Electrochemical Society Proceedings, Vol. 99, No. 1, p. 315-323 (from a presentation on or about May 3, 1999)	
	40	SHIMIZU, H., et al., Excellence of Gate Oxide Integrity in Metal-Oxide-Semiconductor Large-Scale-Integrated Circuits Based on P-/P-Thin-Film Epitaxial Silicon Wafers, Jpn. J. Appl. Phys., Vol. 36, Part 1, No. 5A, 1997, p. 2565-2570	
	50	SHIMURA, F., Semiconductor Silicon Crystal Technology, Academic Press, Inc., San Diego, CA, 1989, p. 361-377	

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